

WHAT IS CLAIMED IS:

1. A vibration proof device for a control unit in which a control unit section of a drive unit provided with an electric motor is mounted on the drive unit to be united therewith, the control unit section, comprising:

 a power unit; and

 a control unit, the power unit being immovably fixed to the drive unit, and the control unit being movably supported on the drive unit using a vibration proof mechanism.

2. The vibration proof device for a control unit according to claim 1, wherein the power unit comprises an inverter unit, the inverter unit is connected to the electric motor of the drive unit through a connection member, and the connection member is immovably fixed to the drive unit and the power unit.

3. The vibration proof device for a control unit according to claim 2, wherein the power unit comprises an inverter unit, the control unit section is provided with a casing, which receives therein at least the inverter unit, and the power unit is held on the casing.

4. The vibration proof device for a control unit according to claim 3, wherein the casing is fixed to the drive unit to thereby make the power unit immovable relative to the drive unit.

5. The vibration proof device for a control unit according to claim 3, wherein the control unit is supported through the vibration proof mechanism on the power unit and supported through the power unit on the drive unit.

6. The vibration proof device for a control unit according to claim 3, wherein the control unit comprises a control board fixed to a base to control the drive unit, and the base is supported through the vibration proof mechanism on the drive unit.

7. The vibration proof device for a control unit according to claim 3, wherein the control unit is fixed to a cover of a casing of the control unit section, and the cover is supported through the vibration proof mechanism on the drive unit.

8. The vibration proof device for a control unit according to claim 2, wherein the control unit is supported through the vibration proof mechanism on the power unit and supported through the power unit on the drive unit.

9. The vibration proof device for a control unit according to claim 2, wherein the control unit comprises a control board fixed to a base to control the drive unit, and the base is supported through the vibration proof mechanism on the drive unit.

10. The vibration proof device for a control unit according to claim 2, wherein the control unit is fixed to a cover of a casing of the control unit section, and the cover is supported through the vibration proof mechanism on the drive unit.

11. The vibration proof device for a control unit according to claim 1, wherein the power unit comprises an inverter unit, the control unit section is provided with a casing, which receives therein at least the inverter unit, and the power unit is held on the casing.

12. The vibration proof device for a control unit according to claim 11, wherein the casing is fixed to the drive unit to thereby make the power unit immovable relative to the drive unit.

13. The vibration proof device for a control unit according to claim 11, wherein the control unit is supported through the vibration proof mechanism on the power unit and supported through the power unit on the drive unit.

14. The vibration proof device for a control unit according to claim 11, wherein the control unit comprises a control board fixed to a base to control the drive unit, and the base is supported through the vibration proof mechanism on the drive unit.

15. The vibration proof device for a control unit according to claim 11, wherein the control unit is fixed to a cover of a casing of the control unit section, and the cover is supported through the vibration proof mechanism on the drive unit.

16. The vibration proof device for a control unit according to claim 1, wherein the control unit is supported through the vibration proof mechanism on the power unit and supported through the power unit on the drive unit.

17. The vibration proof device for a control unit according to claim 1, wherein the control unit comprises a control board fixed to a base to control the drive unit, and the base is supported through the vibration proof mechanism on the drive unit.

18. The vibration proof device for a control unit according to claim 1, wherein the control unit is fixed to a cover of a casing of the control unit section, and the cover is supported through the vibration proof mechanism on the drive unit.

19. The vibration proof device for a control unit according to claim 1, wherein a flexible grounding member grounds the control unit to the drive unit.

20. The vibration proof device for a control unit according to claim 1, wherein the drive unit is a hybrid drive unit connected to and united with an internal combustion engine, and the vibration proof mechanism is made of a vibration proof material and has a resonance frequency, which is at least a primary frequency of the cylinder firing of the internal combustion engine and at most a resonance frequency of the control board.

21. A vibration proof mounting for a sensitive electronic device on a drive unit of a vehicle, the mounting comprising:

a base unit immovably mounted to the drive unit, the base unit having at least two boss portions, each boss portion having a hole therein; and

a mount assembly for each boss portion, the sensitive electronic unit having a hole passing therethrough aligned with the hole in each of the at least two boss portions, each mount assembly comprising:

a retainer that is received in a corresponding hole;

a collar surrounding a shaft of the retainer and seated on the base unit; and
one of a washer or a flange seated on an upper surface of the elastic body,

wherein when the retainer is attached, the one of the washer or the flange compresses the elastic body.

22. The vibration proof mounting according to claim 21, wherein the elastic body has a first ring like portion adjacent the one of the washer or flange and a second portion having a top-hat shape with a hole passing through the top hat to receive the collar.

23. The vibration proof mounting according to claim 21, wherein the elastic body is a single cylindrical structure with a hole to receive the collar.

24. The vibration proof mounting according to claim 21, wherein the at least two boss portions are four boss portions.

25. The vibration proof mounting according to claim 24, wherein the holes in the sensitive electronic unit are substantially at corners thereof and the boss portions are likewise substantially opposing the corners of the sensitive electronic unit.

26. The vibration proof mounting according to claim 25, wherein the base unit comprises at least one additional boss portion, in addition to the four boss portions, wherein the at least one additional boss portion is substantially symmetrically and centrally positioned relative to at least two of the four boss portions and the sensitive electronic unit has a hole corresponding to each additional boss portion of the at least one additional boss portion.